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CRDEC-SP-017

CBR OPERATIONS IN COLD WEATHER: A BIBLIOGRAPHY VOLUME 1

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CRREL

U.S. ARMY
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CHEMICAL COMMAND

Aberdeen Proving Ground, Maryland 21010-5423

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Complex military operations can be severely hampered in cold weather. An extensive search of the literature has been completed, from which more than 60 reports and references have been selected for the comprehensive bibliography that is presented here in two volumes. Volume 1 includes only UNCLASSIFIED entries for convenient desktop reference, whereas, Volume 2 includes citations at the RESTRICTED, CONFIDENTIAL, and SECRET levels. Both volumes are cross-indexed by several schemes, including title, subject, author, and year. Abstracts for all references are provided, where available. This report is intended to provide an up-to-date guide to CBR operations in cold weather and to offer users the most authoritative information available concerning this topic.

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Protective clothing
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Winter

PREFACE

The work described in this report was authorized under Project No. 1C162622-A553I, CB Simulants, Survivability and Systems Science. This work was started in September 1988 and completed in July 1989.

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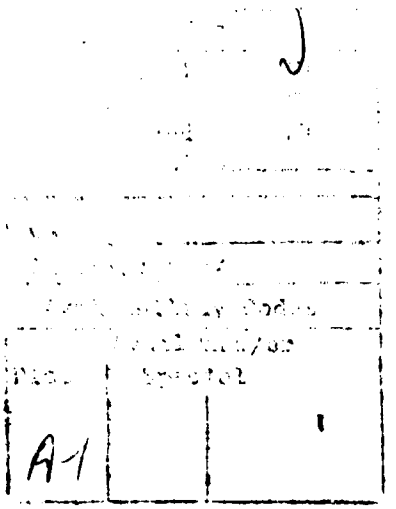

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CBR OPERATIONS IN COLD WEATHER: A BIBLIOGRAPHY

VOLUME 1

1. INTRODUCTION

Complex military operations can be severely hampered in cold weather. Yet the literature of cold weather warfare involving chemical, biological and radiological (CBR) operations has remained fragmented and difficult to access. In an attempt to remedy this situation the authors have completed an extensive search of the related literature, and have carefully selected more than 60 reports and references of high quality for inclusion here. These represent the most authoratative and up-to-date information available concerning CBR operations in cold weather.

The bibliography is organized into two volumes. Volume 1, which is intended for convenient desktop reference, contains only unclassified entries but includes unclassified indexing to Volume 2, which contains information at the RESTRICTED, CONFIDENTIAL and SECRET levels. Abstracts are provided in the proper volume for all references, where these are available. Many earlier reports did not contain abstracts.

The volumes are cross-indexed by several schemes including by subject, by principal author (or by "corporate author" when authors' names are not given), by title of reference, and by year of publication.

The index by subject is in Section 2 of this volume. Keywords or descriptors are listed alphabetically with the DOD/DROLS numbers ("AD numbers") needed to access appropriate references. Throughout this report, all references are indexed using their DOD/DROLS numbers.

The index by principal author is in Section 3 of this volume. Where the names of individual authors are not known, the names of their organizations ("corporate authors") are given instead. Also shown are the year of publication, organization, title, and DOD/DROLS number.

The index by title of reference is in Section 4 of this volume. Only the title and DOD/DROLS number is given. References with classified titles are listed in this way. This indicates that their titles can be found in Volume 2 of this report.

The index by year of publication is in Section 5 of this volume. Listed are the authors names, title, and DOD/DROLS number for access.

The unclassified bibliography itself is in Section 6 of this volume. It is indexed by the DOD/DROLS access number, and lists all other available information including the abstract of each reference, if available. Classified abstracts appear only in Volume 2, and the words "(classified abstract)" indicate this here.

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1964	BOOZ-ALLEN APPLIED RESEARCH INC LOS ANGELES CALIF	ANALYSES OF THE BG DATA FROM THE NIGHT TRAIN TRIALS.	DOD/DROLS 514730L
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HELLBERG E N

1961	TAYLOR D;HELLBERG E N;	RADIOLOGICAL DECONTAMINATION METHODS AND EQUIPMENT FOR COLD-WEATHER REGIONS	DOD/DROLS 264130

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1982	HERZ MATTHEW L ;BRANDLER PHILIP;	IMPACT OF LOW TEMPERATURE ON INDIVIDUAL CHEMICAL PROTECTION.	DOD/DROLS C953524L

HILL TERRANCE E

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1964	MEREDITH J L ;MALONEY J C ;BRADBURY HOWELL G; MILLER WILLIAM R ;	COLD WEATHER DECONTAMINATION STUDY - MCCOY IV,	DOD/DROLS 451291
1964	MEREDITH J L ;MALONEY J C ;BRADBURY HOWELL G; MILLER WILLIAM R ;	COLD WEATHER DECONTAMINATION STUDY - MCCOY IV,	DOD/DROLS 451292
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MCSHANE WILLIAM P

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1964	MEREDITH J L ;MALONEY J C ;BRADBURY HOWELL G; MILLER WILLIAM R ;	COLD WEATHER DECONTAMINATION STUDY - MCCOY IV,	DOD/DROLS 451291
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MILLER WILLIAM R

1964	MEREDITH J L ;MALONEY J C ;BRADBURY HOWELL G; MILLER WILLIAM R ;	COLD WEATHER DECONTAMINATION STUDY - MCCOY IV,	DOD/DROLS 451291
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PERALTA ROBERTO

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STANFORD THOMAS B			
1987	REIDY JOHN J ;BAUM JOSEPH V ;HILL TERRANCE E ; RUDOLPH ROBERT C ;STANFORD THOMAS B ;	COLD WEATHER DECONTAMINATION OPERATIONS.	DOD/DROLS B111608L

STANSBURY MARY M

1987	STANSBURY MARY M; METZ DENNIS F; MCNALLY RICHARD E; BRUNO JOHN E	ARCTIC THREAT ASSESSMENT.	DOD/DROLS B114740

STEARMAN ROEBERT L

1985	STEARMAN ROEBERT L ;	PROBLEMS OF CHEMICAL DEFENSE OPERATIONS IN EXTREME COLD.	DOD/DROLS B099962L

STEPHENSON LOU A

1986	CADARETTE BRUCE S ;SPECKMAN KAREN L ;STEPHENSON LOU A ;	PHYSIOLOGICAL ASSESSMENTS OF CHEMICAL THREAT PROTECTIVE PATIENT WRAPS IN THREE ENVIRONMENTS.	DOD/DROLS A173203

STREICHER EUGENE

1949	ESSIG CARL F ;MCSHANE WILLIAM P ;STREICHER EUGENE;FLEISCHMANN WALTER;	TEST OF ATROPINE AMPINS UNDER SUB-ARCTIC CONDITIONS.	DOD/DROLS B954550L

SUFFIELD EXPERIMENTAL STATION RALSTON (ALBERTA)

1953	SUFFIELD EXPERIMENTAL STATION RALSTON (ALBERTA)	THE EVAPORATION OF MUSTARD GAS IN COLD WEATHER.	DOD/DROLS B963860L

TANNER WILLIAM S

1966	TANNER WILLIAM S ;	TEST 65-3--WEST SIDE.	DOD/DROLS 373325L
1968	TANNER WILLIAM S ;	DTC TEST 67-7.	DOD/DROLS 391137L

TAYLOR D

1961	TAYLOR D;HELLBERG E N;	RADIOLOGICAL DECONTAMINATION METHODS AND EQUIPMENT FOR COLD-WEATHER REGIONS	DOD/DROLS 264130

TESKO S

1985	TESKO S ;	COLD WEATHER ASPECTS OF NBC (NUCLEAR, BIOLOGICAL AND CHEMICAL) OPERATIONS - A SURVEY OF SELECTED WARSAW PACT OPEN SCURCE LITERATURE.	DOD/DROLS A166321

VANCHERI FRANK J

1982	VANCHERI FRANK J ;	ADVANCED DEVELOPMENT OF A DETECTOR KIT FOR CHEMICAL AGENTS IN WATER.	DOD/DROLS B066840L
1988	FRIEL JOSEPH V; GRAHAM MICHAEL G; VANCHERI FRANK J	EVALUATION OF AQUEOUS-BASED DECONTAMINATING APPROACHES AT EXTREME COLD TEMPERATURES.	DOD/DROLS B123801L

WESTLAKE WILFRED J

1967	JOHNSTON R C ;HANNEMANN M M D ;HALLANGER N L ;KROTH J R ;WESTLAKE WILFRED J ;	SWAMP OAK TEST DATA ANALYSIS.	DOD/DROLS 514727L

WHEELER C HERBERT J R

1963	WHEELER C HERBERT J R;CAMMARANO MARIO V ;	CIVIL DEFENSE MANUAL FOR RADIOLOGICAL DECONTAMINATION OF MUNICAPALITIES.	DOD/DROLS 416493

WORSLEY D

1974	WORSLEY D ;AMOR A ;HUGHES W P ;INCE N ; RAMSAY D ;	PHYSIOLOGICAL TRIAL OF COLD WEATHER CLOTHING AND EQUIPMENT. EXERCISE HONKY TONK I. NORWAY 1974,	DOD/DROLS B009895

YUROW HARVEY W

1986	YUROW HARVEY W ;	ICE FOG AND CLATHRATE HYDRATE FORMATION AND THEIR CORRELATION WITH AGENT USE IN ARTIC REGIONS| A LITERATURE SURVEY.	DOD/DROLS B106382L
1988	YUROW HARVEY W	THE USE OF AGENTS IN ARCTIC REGIONS| BASIC	DOD/DROLS B122022L

CONSIDERATIONS AND PROPOSALS.

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THE EVAPORATION OF MUSTARD GAS IN COLD WEATHER.	DOD/DROLS B963860L
THE USE OF AGENTS IN ARCTIC REGIONS| BASIC CONSIDERATIONS AND PROPOSALS.	DOD/DROLS B122022L

WHISTLE DOWN.

DOD/DROLS 345779L
DOD/DROLS 352690

BLANK

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1949

1949	ESSIG CARL F ;MCSHANE WILLIAM P ;STREICHER EUGENE;FLEISCHMANN WALTER;	TEST OF ATROPINE AMPINS UNDER SUB-ARCTIC CONDITIONS.	DOD/DROLS B954550L

1953

1953	HAMILTON WILLIAM M;KAYE SAUL;	PRINCIPLES AND PRACTICE OF BW DECONTAMINATION. 8. COLD WEATHER EVALUATION OF SOME BW DECONTAMINATION METHODS	DOD/DROLS 222753
1953	PERALTA ROBERTO;	ARCTIC TESTS AT FORT CHURCHILL, WINTER 1952-1953.	DOD/DROLS 366855L
1953	SUFFIELD EXPERIMENTAL STATION RALSTON (ALBERTA)	THE EVAPORATION OF MUSTARD GAS IN COLD WEATHER.	DOD/DROLS B963860L

1955

1955	DUGWAY PROVING GROUND UTAH BW ASSESSMENT LAB.	(CLASSIFIED TITLE)	DOD/DROLS 596057L

1957

1957	DUGWAY PROVING GROUND UTAH	BEHAVIOR OF BW AEROSOLS IN SUB-FREEZING TEMPERATURES, OPERATION 'ICICLE' BW 330-B.	DOD/DROLS 596030L
1957	DUGWAY PROVING GROUND UTAH	BEHAVIOR OF BW AEROSOLS IN SUB-FREEZING TEMPERATURES, OPERATION 'ICICLE', BW 330-B, TRIALS 3, 4, AND 5.	DOD/DROLS 896351L
1957	KETHLEY T W;FINCHER E L;COWN W B;	THE EFFECT OF LOW TEMPERATURES ON THE SURVIVAL OF AIRBORNE BACTERIA	DOD/DROLS 294093

1960

1960	ARMY COMBAT DEVELOPMENTS COMMAND FORT MCCLELLAN AL CHEMICAL-BIOLOGICAL-RADIOLOGICAL AGENCY	CW OPERATIONS IN LOW TEMPERATURE AREAS.	DOD/DROLS B955545L

1961

1961	ARMY ARCTIC TEST CENTER FORT GREELY ALASKA	GENERAL CONCEPT OF NORTHERN OPERATIONS	DOD/DROLS 279048
1961	DUGWAY PROVING GROUND UTAH	POLAR RESEARCH. CHEMICAL CORPS PARTICIPATION IN LEAD DOG 60	DOD/DROLS 272856
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1962	MALONEY JOSEPH;MEREDITH JOHN L;	COLD WEATHER DECONTAMINATION STUDY - MCCOY I	DOD/DROLS 274259

1963

1963	DESERET TEST CENTER FORT DOUGLAS UTAH	NIGHT TRAIN.	DOD/DROLS 352698
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		NORTHERN POLAR REGIONS.	
1963	HANNA ALFRED E;	SIMULATED COLD WEATHER RADIOLOGICAL DECONTAMINATION OF RECOVERY EQUIPMENT.	DOD/DROLS 296248
1963	WHEELER C HERBERT J R;CAMMARANO MARIO V ;	CIVIL DEFENSE MANUAL FOR RADIOLOGICAL DECONTAMINATION OF MUNICAPALITIES.	DOD/DROLS 416493
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1964	BOOZ-ALLEN APPLIED RESEARCH INC LOS ANGELES CALIF	ANALYSES OF THE BG DATA FROM THE NIGHT TRAIN TRIALS.	DOD/DROLS 514730L
1964	BOOZ-ALLEN APPLIED RESEARCH INC LOS ANGELES CALIF	NIGHT TRAIN ANALYSIS.	DOD/DROLS 514731L
1964	DESERET TEST CENTER FORT DOUGLAS UTAH	COPPER HEAD	DOD/DROLS 353593
1964	DESERET TEST CENTER FORT DOUGLAS UTAH	NIGHT TRAIN	DOD/DROLS 355685L
1964	MEREDITH J L ;MALONEY J C ;BRADBURY HOWELL G; MILLER WILLIAM R ;	COLD WEATHER DECONTAMINATION STUDY - MCCOY IV,	DOD/DROLS 451291
1964	MEREDITH J L ;MALONEY J C ;BRADBURY HOWELL G; MILLER WILLIAM R ;	COLD WEATHER DECONTAMINATION STUDY - MCCOY IV,	DOD/DROLS 451292
1965			
1965	HALLANGER N L ;ASSING JAMES V ;DAITCH A MICHAEL;	PROJECT NIGHT TRAIN - SUPPLEMENTAL ANALYSIS.	DOD/DROLS 514709L
1966			
1966	TANNER WILLIAM S ;	TEST 65-3--WEST SIDE.	DOD/DROLS 373325L
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1967	BOOZ-ALLEN APPLIED RESEARCH INC LOS	SUN DOWN TEST DATA ANALYSIS.	DOD/DROLS 514798L

	ANGELES CALIF		
1967	JOHNSTON R C ;HANNEMANN M M D ;HALLANGER N L ;KROTH J R ;WESTLAKE WILFRED J ;	SWAMP OAK TEST DATA ANALYSIS.	DOD/DROLS 514727L
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1968	CAUDLE KENNETH F ;FARLEY THOMAS E ;	NUCLEAR WEAPON EFFECTS IN ARCTIC ASW,	DOD/DROLS 391458L
1968	MALONEY JOSEPH C ;	EFFECTS OF VEHICULAR OPERATION ON CONTAMINATED SLUSHY ROADS.	DOD/DROLS 676153
1968	PARKIN JERRY L ;	DTC TEST 66-3 - SWAMP OAK.	DOD/DROLS 389838L
1968	TANNER WILLIAM S ;	DTC TEST 67-7.	DOD/DROLS 391137L
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1973	DEFENCE NBC SCHOOL SALISBURY (ENGLAND)	(CLASSIFIED TITLE)	DOD/DROLS C950164L
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1979	GRAYSON B L ;RICE W H ;	DEVELOPMENT TEST II (PROTOTYPE QUALIFICATION	DOD/DROLS B042605L

		TEST - GOVERNMENT) OF XM9 CHEMICAL AGENT DETECTOR PAPER EXPOSED AT ENVIRONMENTAL SITES.	
1979	NELSON JOHN D ;	DEVELOPMENT TEST II OF XM9 CHEMICAL AGENT DETECTOR PAPER.	DOD/DROLS B038724L
1982			
1982	HERZ MATTHEW L ;BRANDLER PHILIP;	IMPACT OF LOW TEMPERATURE ON INDIVIDUAL CHEMICAL PROTECTION.	DOD/DROLS C953524L
1982	VANCHERI FRANK J ;	ADVANCED DEVELOPMENT OF A DETECTOR KIT FOR CHEMICAL AGENTS IN WATER.	DOD/DROLS B066840L
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1984	EBERSOLE J F ;KLIMEK W ;	SMOKE WEEK VI/SNOW-TWO OBSERVATIONS,	DOD/DROLS P200226
1984	JORDON R ;	SNOW-TWO DATA REPORT. VOLUME 2. SYSTEM PERFORMANCE.	DOD/DROLS B090991L
1984	KLIMEK W G ;DIETZ K L ;ADAMS D ;FARMER W M ;STALLINGS E S ;	SMOKE WEEK VI/SNOW TWO. VOLUME 1A. OBSCURANT CHARACTERIZATION MEASUREMENTS SUMMARY.	DOD/DROLS B089094
1984	KLIMEK W G ;DIETZ K L ;ADAMS D ;FARMER W M ;STALLINGS E S ;	SMOKE WEEK VI/SNOW TWO. VOLUME 1B. OBSCURANT CHARACTERIZATION MEASUREMENTS SUMMARY.	DOD/DROLS B089095
1984	MATISE B K ;	MODELING THE EFFECTS OF A COLD ENVIRONMENT ON SCREENING SMOKES,	DOD/DROLS P200228
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1985	ARMY TEST AND EVALUATION COMMAND ABERDEEN PROVING GROUND MD	COLD REGIONS ENVIRONMENTAL TEST OF NUCLEAR, BIOLOGICAL, AND CHEMICAL DECONTAMINATION EQUIPMENT.	DOD/DROLS A158593
1985	ARMY TEST AND EVALUATION COMMAND ABERDEEN PROVING GROUND MD	COLD REGIONS LOGISTIC SUPPORTABILITY TESTING OF CHEMICAL, BIOLOGICAL, AND RADIOLOGICAL DEFENSE	DOD/DROLS A158729

		EQUIPMENT.	
1985	HAMMERMAN G ;APKER D ;MARTELL P ;PETTERSON L ;	COLD-WEATHER COMBAT| ANALOGIES TO CHEMICAL COMBAT.	DOD/DROLS B095941
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1985	TESKO S ;	COLD WEATHER ASPECTS OF NBC (NUCLEAR, BIOLOGICAL AND CHEMICAL) OPERATIONS - A SURVEY OF SELECTED WARSAW PACT OPEN SOURCE LITERATURE.	DOD/DROLS A166321
1986			
1986	BRITTON K B ;	LOW TEMPERATURE EFFECTS ON SORPTION, HYDROLYSIS AND PHOTOLYSIS OF ORGANOPHOSPHONATES| A LITERATURE REVIEW.	DOD/DROLS A178349
1986	CADARETTE BRUCE S ;SPECKMAN KAREN L ;STEPHENSON LOU A ;	PHYSIOLOGICAL ASSESSMENTS OF CHEMICAL THREAT PROTECTIVE PATIENT WRAPS IN THREE ENVIRONMENTS.	DOD/DROLS A173203
1986	YUROW HARVEY W ;	ICE FOG AND CLATHRATE HYDRATE FORMATION AND THEIR CORRELATION WITH AGENT USE IN ARTIC REGIONS| A LITERATURE SURVEY.	DOD/DROLS B106382L
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1987	CARSON JEFFERY L ;	FIRST ARTICLE - INITIAL PRODUCTION TEST (FA- IPT) OF DECONTAMINATION KIT, INDIVIDUAL EQUIPMENT, M280.	DOD/DROLS B114331L
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1987	REIDY JOHN J ;BAUM JOSEPH V ;HILL TERRANCE E ; RUDOLPH ROBERT C ;STANFORD THOMAS B ;	COLD WEATHER DECONTAMINATION OPERATIONS.	DOD/DROLS B111608L
1987	STANSBURY MARY M; METZ DENNIS F; MCNALLY RICHARD E; BRUNO JOHN E	ARCTIC THREAT ASSESSMENT.	DOD/DROLS B114740

1988

1988	FRIEL JOSEPH V; GRAHAM MICHAEL G; VANCHERI FRANK J	EVALUATION OF AQUEOUS-BASED DECONTAMINATING APPROACHES AT EXTREME COLD TEMPERATURES.	DOD/DROLS B123801L
1988	LEGGETT DANIEL C	PERSISTENCE OF CHEMICAL AGENTS ON THE WINTER BATTLEFIELD,	DOD/DROLS B121807
1988	PARKER LOUISE V	DECONTAMINATION OF CHEMICAL AGENTS ON THE WINTER BATTLEFIELD| A LITERATURE REVIEW AND PRELIMINARY ASSESSMENT,	DOD/DROLS B123137L
1988	PODOLL R T; PARISH HELEN J	EXPERIMENTAL MEASUREMENTS OF THE PROPERTIES OF CHEMICAL SURETY MATERIALS UNDER CONDITIONS OF EXTREME COLD.	DOD/DROLS B122961L
1988	YUROW HARVEY W	THE USE OF AGENTS IN ARCTIC REGIONS| BASIC CONSIDERATIONS AND PROPOSALS.	DOD/DROLS B122022L

BLANK

DOD/DROLS 222753 1953

PRINCIPLES AND PRACTICE OF BW DECONTAMINATION. 8. COLD WEATHER EVALUATION OF SOME BW DECONTAMINATION METHODS

ARMY BIOLOGICAL LABS FREDERICK MD

HAMILTON WILLIAM M;KAYE SAUL;

XXXXXX HC COST: $ 5.00

(Abstract not available)

DOD/DROLS 264130 1961

RADIOLOGICAL DECONTAMINATION METHODS AND EQUIPMENT FOR COLD-WEATHER REGIONS

NAVAL CIVIL ENGINEERING LAB PORT HUENEME CALIF

TAYLOR D;HELLBERG E N;

88P HC COST: $ 5.00 NCEL-TR-105

THE EFFECTS OF COLD WEATHER UPON THE OPERATION OF THE BASIC RADIOLOGICAL RECOVERY PLAN ARE POINTED OUT; THE MAJOR PROBLEM AREAS MOST LIKELY TO BE ENCOUNTERED IN RECOVERING A FIXED MILITARY INSTALLATION SUBJECTED TO RADIOLOGICAL CONTAMINATION IN COLD CLIMATIC CONDITIONS ARE OUTLINED, AND METHODS AND EQUIPMENT TO BE USED FOR RADIOLOGICAL DECONTAMINATION ARE INDICATED AND ILLUSTRATED FOR VARIOUS COLD-WEATHER CONDITIONS. (AUTHOR)

DOD/DROLS 272856 1961

POLAR RESEARCH. CHEMICAL CORPS PARTICIPATION IN LEAD DOG 60

DUGWAY PROVING GROUND UTAH

DUGWAY PROVING GROUND UTAH

XXXXXX HC COST: $ 5.00 TR277

THE PERFORMANCE OF THE CHEMICAL CORPS EQUIPMENT TESTED DURING OPERATION LEAD DOG 60 INDICATES THAT IT IS ESSENTIALLY SATISFACTORY FOR USE IN THE POLAR ENVIRONMENT. THE EQUIPMENT WAS TESTED DURING PERIODS OF BLOWING SNOW AND TEMPERATURES RANGING FROM -20 F TO A MAXIMUM OF 46 F. SIX M17 PROTECTIVE MASKS WERE FOUND TO BE COMFORTABLE AND EFFICIENT. FIVE M6 FILTER UNITS FUNCTIONED SATISFACTORILY AT ALL TIMES. M18 SMOKE GRENADES FUNCTIONED SATISFACTORILY AT ALL TIMES. THE FACT THAT RED SMOKE WAS THE EASIEST TO IDENTIFY ON THE EDGE OR MARGINAL AREAS OF

THE ICECAP AND THE GREEN SMOKE WAS THE EASIEST TO IDENTIFY ON THE MAIN PART OF THE ICECAP MAY CALL FOR A CHANGE IN METHODS FOR THE USE OF SIGNALING GRENADES IN THE POLAR REGION. THE RADIOLOGICAL BACKGROUND MONITORING INDICATES THAT THE EASTERN PORTION OF GREENLAND, ON THE AVERAGE, HAS A HIGHER BACKGROUND COUNT THAN THE WESTERN PORTION OF THE ISLAND. (AUTHOR)

DOD/DROLS 274259 1962

COLD WEATHER DECONTAMINATION STUDY - MCCOY I

ARMY NUCLEAR DEFENSE LAB EDGEWOOD ARSENAL MD

MALONEY JOSEPH;MEREDITH JOHN L;

XXXXXX HC COST: $ 5.00 TR24

(Abstract not available)

DOD/DROLS 279048 1961

GENERAL CONCEPT OF NORTHERN OPERATIONS

ARMY ARCTIC TEST CENTER FORT GREELY ALASKA

ARMY ARCTIC TEST CENTER FORT GREELY ALASKA

XXXXXX HC COST: $ 5.00

(Abstract not available)

DOD/DROLS 290358 1962

COLD WEATHER DECONTAMINATION STUDY - MCCOY II

ARMY NUCLEAR DEFENSE LAB EDGEWOOD ARSENAL MD

MALONEY JOSEPH C;MEREDITH JOHN L;

XXXXXX HC COST: $ 5.00 TR32

(Abstract not available)

DOD/DROLS 294093 1957

THE EFFECT OF LOW TEMPERATURES ON THE SURVIVAL OF AIRBORNE BACTERIA

ARCTIC AEROMEDICAL LAB FORT WAINWRIGHT ALASKA

KETHLEY T W;FINCHER E L;COWN W B;

XXXXXX HC COST: $ 5.00 TR83

RESULTS ARE REPORTED FOR STUDIES ON VARIOUS AIRBORNE BACTERIA UNDER VARYING CONDITIONS OF RELATIVE HUMIDITY AT LOW TEMPERATURES. EMPLOYING AIRBORNE BACTERIAL PARTICLES DISPERSED FROM BEEF BROTH CULTURES, STUDIES ARE REPORTED FOR SERRATIA MARCESCENS AND ESCHERICHIA COLI FOR THE RANGE OF TEMPERATURES 80 TO -40 F. PRELIMINARY STUDIES ARE REPORTED FOR SERRATIA INDICA, MICROCCOCUS PYOGENES VAR. AUREUS AND MICROCCOCUS PYOGENES VAR. ALBUS. IT IS CONCLUDED THAT THE EXPERIMENTAL BACTERIAL PARTICLES STUDIED ARE VERY SIMILAR TO THOSE ARISING FROM NATURAL CAUSES AND THAT THE FINDINGS ARE GENERALLY APPLICABLE TO MANY NATURALLY OCCURRING AIRBORNE BACTERIA. THE VERY LOW DEATH RATE OBSERVED FOR THE EXPERIMENTAL BACTERIAL AEROSOLS AT LOW TEMPERATURES IS CONSISTENT WITH PREVIOUS REPORTS OF THE PRESENCE OF VIABLE BACTERIA IN THE UPPER ATMOSPHERES. IT IS SUGGESTED THAT THE COMPOSITION OF THE NON-LIVING MATERIAL ASSOCIATED WITH THE AIRBORNE BACTERIAL PARTICLE IS THE MOST IMPORTANT SINGLE FACTOR IN DETERMINING THE FATE OF SUCH ORGANISMS. (AUTHOR)

DOD/DROLS 296248 1963

SIMULATED COLD WEATHER RADIOLOGICAL DECONTAMINATION OF RECOVERY EQUIPMENT.

NAVAL CIVIL ENGINEERING LAB PORT HUENEME CALIF

HANNA ALFRED E;

12P HC COST: $ 5.00 NCEL-TN-481

TESTS WERE CONDUCTED IN COLD CHAMBER, IN WHICH COMPRESSED AIR, STEAM, VACUUM, WATER, AND ANTIFREEZE SOLUTION WERE USED TO REMOVE A FLUORESCENT FALLOUT SIMULANT FROM A LARGE TRACTOR AT TEMPERATURES DOWN TO MINUS 10 DEGREES F. IT IS CONCLUDED THAT ANTIFREEZE SOLUTION AND WATER, IF WARMED, ARE THE MOST EFFECTIVE MATERIALS; STEAM MAY BE ACCEPTABLY EFFECTIVE, AND AIR AND VACUUM HAVE LIMITED USE. (AUTHOR)

DOD/DROLS 343006 1962

LOW TEMPERATURE FIELD TESTING OF CHEMICAL TOXICOLOGICAL AGENTS

DUGWAY PROVING GROUND UTAH

DUGWAY PROVING GROUND UTAH

SUMMARY REPT. 62P HC COST: $ 5.00

FROM A REVIEW OF THE TRIALS OF GB-FILLED MUNITIONS CONDUCTED AT TEMPERATURES BELOW 20 F BY DUGWAY PROVING GROUND, UTAH, IT IS CONCLUDED THAT BOTH THE RATE OF AGENT DISSEMINATION AND THE AMOUNT OF VAPOR DISSEMINATED DURING THE PASSAGE OF THE INITIAL VAPOR CLOUD DECREASED IN A FAIRLY WELL DEFINED MANNER WITH DECREASE IN TEMPERATURE. MEASURED BY SUCH CRITERIA, THE EFFECTIVENESS OF THIS NON-PERSISTENT AGENT DECREASES IN COLD WEATHER. IT IS ALSO CONCLUDED THAT FURTHER LOW TEMPERATURE TESTING BY VAPOR DOSAGE SAMPLING WOULD ONLY CONFIRM DATA NOW AVAILABLE. THEREFORE, IT IS RECOMMENDED THAT NO MORE SUCH TESTING BE DONE AT DUGWAY PROVING GROUND. AN ALTERNATE COLD WEATHER PROGRAM IS SUGGESTED AND PROCEDURES ARE DETAILED HEREIN. (AUTHOR)

DOD/DROLS 345779L 1963

WHISTLE DOWN.

DESERET TEST CENTER FORT DOUGLAS UTAH

DESERET TEST CENTER FORT DOUGLAS UTAH

FINAL REPT., 1 DEC 62-5 FEB 63. 330P HC COST: $ 21.10

(CLASSIFIED ABSTRACT)

DOD/DROLS 352690 1962

WHISTLE DOWN.

DESERET TEST CENTER FORT DOUGLAS UTAH

DESERET TEST CENTER FORT DOUGLAS UTAH

55P HC COST: $ 5.00

(CLASSIFIED ABSTRACT)

DOD/DROLS 352698 1963

NIGHT TRAIN.

DESERET TEST CENTER FORT DOUGLAS UTAH

DESERET TEST CENTER FORT DOUGLAS UTAH

100P HC COST: $ 5.00

(CLASSIFIED ABSTRACT)

DOD/DROLS 353593 1964

COPPER HEAD

DESERET TEST CENTER FORT DOUGLAS UTAH

DESERET TEST CENTER FORT DOUGLAS UTAH

68P HC COST: $ 5.00 TEST65-1, DTC-64-1098

(CLASSIFIED ABSTRACT)

DOD/DROLS 355685L 1964

NIGHT TRAIN

DESERET TEST CENTER FORT DOUGLAS UTAH

DESERET TEST CENTER FORT DOUGLAS UTAH

FINAL REPT. XXXXXX HC COST: $ 5.00 TEST-64-5, DTC-64-1449

(CLASSIFIED ABSTRACT)

DOD/DROLS 366855L 1953

ARCTIC TESTS AT FORT CHURCHILL, WINTER 1952- 1953.

DUGWAY PROVING GROUND UTAH

PERALTA ROBERTO;

95P HC COST: $ 5.00 ETDR-1

THE OBJECTIVE OF THIS PROGRAM WAS TO DETERMINE THE PERFORMANCE AND USABILITY OF THE FOLLOWING ITEMS UNDER ARCTIC WINTER CONDITIONS: SET, GAS-IDENTIFICATION, DETONATION, ML; SET, ACCESSORIES, GAS-IDENTIFICATION, DETONATION, ML; APPARATUS, DECONTAMINATING, PORTABLE, 3-GALLON, MI; DANC SOLUTION UNIT 4 1/2- GALLON, M4; PAINT, LIQUID-VESICANT DETECTOR, M5; PAPER, LIQUID- VESICANT DETECTOR, M6; IGNITER, WP, M15 AND M16; IGNITER, NA, M16; GRENADE, HAND, TEAR, CN, M7A1; SQUIB, ELECTRIC, FLASH-VENTED, ML; KIT, CHEMICAL AGENT DETECTOR, M9A2; KIT, WINTERIZING, MASK, E14R10; MASK, PROTECTIVE, FIELD, M9AL, NEW, WITH GRS RUBBER COMPONENTS AND NEW HEAD HARNESS; MASK, PROTECTIVE, ARCTIC, E15R2; MASK, PROTECTIVE, ARCTIC, E58R4; BAG, WATERPROOFING, PROTECTIVE MASK, ML; PROTECTOR, COLLECTIVE, 600 CFM, GASOLINE-ENGINE-DRIVEN, E28. (AUTHOR)

DOD/DROLS 373325L 1966

TEST 65-3--WEST SIDE.

DESERET TEST CENTER FORT DOUGLAS UTAH

TANNER WILLIAM S ;

FINAL REPT. ON PHASE 1, 240P HC COST: $ 14.80
DTC-653114R

(CLASSIFIED ABSTRACT)

DOD/DROLS 389838L 1968

DTC TEST 66-3 - SWAMP OAK.

DESERET TEST CENTER FORT DOUGLAS UTAH

PARKIN JERRY L ;

FINAL REPT., 138P HC COST: $ 7.66 DTC-6603151R
ORIGINAL CONTAINS COLOR PLATES: ALL DDC REPRODUCTIONS WILL BE IN BLACK AND WHITE. ORIGINAL MAY BE SEEN I' DDC HEADQUARTERS.

(CLASSIFIED ABSTRACT)

DOD/DROLS 391137L 1968

DTC TEST 67-7.

DESERET TEST CENTER FORT DOUGLAS UTAH

TANNER WILLIAM S ;

FINAL REPT., 174P HC COST: $ 10.18 DTC-6707155R
INCLUDES ERRATA SHEET DATED 5 JUL 68.

(CLASSIFIED ABSTRACT)

DOD/DROLS 391458L 1968

NUCLEAR WEAPON EFFECTS IN ARCTIC ASW,

NAVAL ORDNANCE LAB WHITE OAK MD

CAUDLE KENNETH F ;FARLEY THOMAS E ;

37P HC COST: $ 5.00 NOLTR-68-86

(CLASSIFIED ABSTRACT)

DOD/DROLS 416493 1963

CIVIL DEFENSE MANUAL FOR RADIOLOGICAL DECONTAMINATION OF MUNICAPALITIES.

CURTISS-WRIGHT CORP CALDWELL N J

WHEELER C HERBERT J R;CAMMARANO MARIO V ;

415P HC COST: $ 27.05

THIS MANUAL COVERS THE OPERATIONAL RECOVERY PHASE OF RADIOLOGICAL DEFENSE, WHICH IS CONCERNED WITH DECONTAMINATION OF STRUCTURES AND AREAS MADE DANGEROUS OR LETHAL BY FALLOUT. IT ASSUMES THAT NO SIGNIFICANT DAMAGE HAS BEEN SUSTAINED IN THE AREA DUE TO BLAST OR FIRE. THE PURPOSE OF THE MANUAL IS TO FURNISH INFORMATION AND PLANNING TECHNIQUES WHICH WILL ENABLE CIVIL DEFENSE PLANNERS TO FORMULATE AND IMPLEMENT PLANS OF ACTION FOR OPERATIONAL RECOVERY FROM NUCLEAR ATTACK IN AREAS SUBJECT TO RADIOACTIVE FALLOUT. THE MANUAL IS WRITTEN FOR MUNICIPAL PLANNERS AND ENGINEERS, AND FOR SPECIAL GROUPS, SUCH AS EQUIPMENT OPERATORS AND MEDICAL DOCTORS, TO WHOM INDIVIDUAL CHAPTERS WILL BE OF PARTICULAR VALUE AND INTEREST. DETAILED TECHNICAL INFORMATION ON METHODS OF DECONTAMINATION IS PRESENTED. THE INSTRUCTIONS COVER THE CLEANING OF BUILDING STRUCTURES, PAVEMENT, AND NATURAL AREAS. ONE CHAPTER DEALS WITH COLD WEATHER DECONTAMINATION PROBLEMS. THE EFFICIENCIES OF DECONTAMINATION METHODS AND EQUIPMENT ARE EVALUATED IN TERMS OF HUMAN EFFORT. (AUTHOR)

DOD/DROLS 451291 1964

COLD WEATHER DECONTAMINATION STUDY - MCCOY IV,

GENERAL DYNAMICS/FORT WORTH TEX

MEREDITH J L ;MALONEY J C ;BRADBURY HOWELL G; MILLER WILLIAM R ;

228P HC COST: $ 13.96

THIS PROJECT PRESENTS EXPERIMENTS AND DATA PERTAINING TO RADIOLOGICAL DECONTAMINATION UNDER COLD-WEATHER AND THAWING CONDITIONS, AS REQUIRED BY THE POST ATTACK RESEARCH PROGRAM OF THE OFFICE OF CIVIL DEFENSE (OCD). THE SPECIFIC OBJECTIVE OF THIS PHASE OF THE PROJECT WAS TO DETERMINE BETTER METHODS FOR DECONTAMINATING SPECIFIC SURFACES; EFFECTIVENESS WAS BASED ON AMOUNT OF CONTAMINATION REMOVED AND THE EFFORT EXPENDED. THIS PROJECT TESTED ADDITIONAL TYPES OF SURFACES AND CONDUCTED MULTIPLE-EFORT EXPERIMENTS TO SUPPLEMENT PREVIOUS WORK. A SERIES OF TEST WERE CONDUCTED AT CAMP MCCOY, WISCONSIN, TO DETERMINE THE EFFECTIVENESS OF MAINTENANCE, SNOW-REMOVAL, FIRE-FIGHTING,

AND MANUAL EQUIPMENT TO DECONTAMINATE SNOW, ICE, FROZEN AND THAWING GROUND, PAVED SURFACES, AND ROOFS. (AUTHOR)

DOD/DROLS 451292 1964

COLD WEATHER DECONTAMINATION STUDY - MCCOY IV,

GENERAL DYNAMICS/FORT WORTH TEX

MEREDITH J L ;MALONEY J C ;BRADBURY HOWELL G; MILLER WILLIAM R ;

113P HC COST: $ 5.91

THIS REPORT PRESENTS EXPERIMENTS AND DATA PERTAINING TO RADIOLOGICAL DECONTAMINATION UNDER COLD-WEATHER AND THAWING CONDITIONS, AS REQUIRED BY THE POST ATTACK RESEARCH PROGRAM OF THE OFFICE OF CIVIL DEFENSE (OCD). THE SPECIFIC OBJECTIVE OF THIS PHASE OF THE PROJECT WAS TO DETERMINE BETTER METHODS FOR DECONTAMINATING SPECIFIC SURFACES; EFFECTIVENESS WAS BASED ON AMOUNT OF CONTAMINATION REMOVED AND THE EFFORT EXPENDED. THIS PROJECT TESTED ADDITIONAL TYPES OF SURFACES AND CONDUCTED MULTIPLE-EFFORT EXPERIMENTS TO SUPPLEMENT PREVIOUS WORK. (AUTHOR)

DOD/DROLS 514709L 1965

PROJECT NIGHT TRAIN - SUPPLEMENTAL ANALYSIS.

BOOZ-ALLEN APPLIED RESEARCH INC LOS ANGELES CALIF

HALLANGER N L ;ASSING JAMES V ;DAITCH A MICHAEL;

DATA ANALYSIS REPT., 157P HC COST: $ 8.99
BAARINC-402-1-R37

(CLASSIFIED ABSTRACT)

DOD/DROLS 514727L 1967

SWAMP OAK TEST DATA ANALYSIS.

BOOZ-ALLEN APPLIED RESEARCH INC LOS ANGELES CALIF

JOHNSTON R C ;HANNEMANN M M D ;HALLANGER N L ;KROTH J R ;WESTLAKE WILFRED J ;

REPT. FOR MAR-APR 66, 260P HC COST: $ 16.20
BAARINC-402-2-R26(17)

(CLASSIFIED ABSTRACT)

DOD/DROLS 514730L 1964

ANALYSES OF THE BG DATA FROM THE NIGHT TRAIN TRIALS.

BOOZ-ALLEN APPLIED RESEARCH INC LOS ANGELES CALIF

BOOZ-ALLEN APPLIED RESEARCH INC LOS ANGELES CALIF

93P HC COST: $ 5.00 BAARINC-851-1-R12

(CLASSIFIED ABSTRACT)

DOD/DROLS 514731L 1964

NIGHT TRAIN ANALYSIS.

BOOZ-ALLEN APPLIED RESEARCH INC LOS ANGELES CALIF

BOOZ-ALLEN APPLIED RESEARCH INC LOS ANGELES CALIF

57P HC COST: $ 5.00 BAARINC-851-1-R6

(CLASSIFIED ABSTRACT)

DOD/DROLS 514799L 1967

SUN DOWN TEST DATA ANALYSIS.

BOOZ-ALLEN APPLIED RESEARCH INC LOS ANGELES CALIF

BOOZ-ALLEN APPLIED RESEARCH INC LOS ANGELES CALIF

127P HC COST: $ 6.89 BAARINC-402-2-R25(16)

(CLASSIFIED ABSTRACT)

DOD/DROLS 528525L 1963

SUMMARY OF CHEMICAL AND BIOLOGICAL OPERATIONS IN NORTHERN POLAR REGIONS.

DUGWAY PROVING GROUND UTAH

DUGWAY PROVING GROUND UTAH

TECHNICAL REPT. 43P HC COST: $ 5.00 DPG-TR-343

THE OBJECTIVE OF THIS REPORT IS TO PROVIDE A SUMMARY OF THE KNOWLEDGE CONCERNING COLD WEATHER REGIONS, WITH EMPHASIS ON THE NORTHERN POLAR REGIONS, ACQUIRED BY ENVIRONMENTAL FIELD TEST DIVISION THROUGH A REVIEW OF AVAILABLE LITERATURE, TESTS CONDUCTED IN GREENLAND BY THE POLAR ENVIRONMENTAL

TEST AND RESEARCH TEAM (PETRT), AND PARTICIPATION IN LEAD DOG 60. THIS REPORT COVERS THE FOLLOWING: (1) A SUMMARY OF THOSE METEOROLOGICAL AND TERRAIN FEATURES OF THE NORTHERN POLAR REGIONS WHICH ARE OF GREATEST IMPORTANCE FOR ALL MILITARY AS WELL AS CHEMICAL AND BIOLOGICAL OPERATIONS, AND (2) A SUMMARY OF PRESENT DOCTRINE REGARDING OPERATIONS IN THE NORTHERN POLAR REGIONS, WITH SPECIAL EMPHASIS ON CHEMICAL AND BIOLOGICAL APPLICATIONS. INCLUDED ARE THE RESULTS OF TESTS CONDUCTED BY PETRT AND A FORECAST OF THE PERFORMANCE OF ITEMS NOT TESTED IN GREENLAND.

DOD/DROLS 596030L 1957

BEHAVIOR OF BW AEROSOLS IN SUB-FREEZING TEMPERATURES, OPERATION 'ICICLE' BW 330-B.

DUGWAY PROVING GROUND UTAH

DUGWAY PROVING GROUND UTAH

INTERIM REPT. 15P HC COST: $ 5.00 DPG-IR-1003

THE OBJECTIVES OF THESE TWO TRIALS WERE (UNDER CONDITIONS OF SUB-FREEZING TEMPERATURES): (1) TO DETERMINE THE SOURCE STRENGTH AND MUNITION EFFICIENCY OF THE UL- AND BG-FILLED PT- 12 TEST FIXTURES; (2) TO DETERMINE AND COMPARE THE DOWNWIND TRAVEL CHARACTERISTICS OF UL AND BG AEROSOLS; (3) TO STUDY THE GUINEA PIG DOSE-MORTALITY RESPONSE TO UL AEROSOLS; AND (4) TO PROVIDE LIMITED INFORMATION CONCERNING THE PERCENTAGES OF ORGANISMS ASSOCIATED WITH PARTICLES SUFFICIENTLY SMALL TO BE COLLECTED BY AN IMPINGER IN SERIES WITH A PRE-IMPINGER. (AUTHOR)

DOD/DROLS 596051L 1962

CHEMICAL OPERATIONS IN LOW-TEMPERATURE AREAS.

DUGWAY PROVING GROUND UTAH

DUGWAY PROVING GROUND UTAH

TECHNICAL REPT. JAN 60-JUN 61. 30P HC COST: $ 5.00 DPG-R-325

(CLASSIFIED ABSTRACT)

DOD/DROLS 596057L 1955

(CLASSIFIED TITLE)

DUGWAY PROVING GROUND UTAH BW ASSESSMENT LABS

DUGWAY PROVING GROUND UTAH BW ASSESSMENT LABS

TECHNICAL REPT. 33P HC COST: $ 5.00 BWALR-9A

(CLASSIFIED ABSTRACT)

DOD/DROLS 676153 1968

EFFECTS OF VEHICULAR OPERATION ON CONTAMINATED SLUSHY ROADS.

ARMY NUCLEAR DEFENSE LAB EDGEWOOD ARSENAL MD

MALONEY JOSEPH C ;

TECHNICAL MEMO., 29P HC COST: $ 5.00 NDL-TM-45

THE OBJECTIVE OF THIS PROJECT WAS TO DEVELOP AND TEST RADIOLOGICAL COUNTERMEASURES THAT ARE APPLICABLE TO POST-NUCLEAR- ATTACK RECOVERY OPERATIONS. THE SPECIFIC OBJECTIVE OF THIS PHASE OF THE PROJECT WAS TO DETERMINE THE EFFECTS OF VEHICULAR TRAFFIC ON DISPLACING FALLOUT ON BARE ROADS AND ON PACKED-SNOW-COVERED ROADS, THE BUILDUP OF ACTIVITY ON VEHICLE SURFACES, AND THE VARIATION OF SUBSEQUENT ROADWAY DECONTAMINATION EFFECTIVENESS ALONG THE PATH OF DECONTAMINATION EFFORT. DUE TO WEATHER CONDITIONS THAT DEVELOPED AT THE TIME OF BOTH TESTS, THE ROADS WERE COVERED WITH SLUSH. FOR VEHICULAR TRAFFIC OVER A RADIOACTIVELY CONTAMINATED SLUSHY ROAD AND SUBSEQUENT ROADWAY DECONTAMINATION, THE FOLLOWING CONCLUSIONS WERE ESTABLISHED: (1) EXPOSURE RATES TO OPERATING PERSONNEL OF VEHICLES WERE SIGNIFICANTLY INCREASED DUE TO VEHICULAR CONTAMINATION. (2) VEHICLES REQUIRED DECONTAMINATION FOLLOWING OPERATION. (3) THE DECONTAMINATION EFFORTS CONDUCTED ON SLUSHY ROADS WERE MUCH LESS EFFECTIVE THAN THOSE CONDUCTED DURING WARM OR COLD DRY WEATHER. (AUTHOR)

DOD/DROLS 896351L 1957

BEHAVIOR OF BW AEROSOLS IN SUB-FREEZING TEMPERATURES, OPERATION 'ICICLE', BW 330-B, TRIALS 3, 4, AND 5.

DUGWAY PROVING GROUND UTAH

DUGWAY PROVING GROUND UTAH

INTERIM REPT. 8P HC COST: $ 5.00 DPG-IR-1007

THIS REPORT PRESENTS THE RESULTS OF THREE SEPARATE TESTS IN WHICH THREE PT-12 TEST FIXTURES, FILLED UL, THREE PT-12 TEST FIXTURES, FILLED BG, AND TWO E61R4 BOMBLETS, FILLED FP, WERE FUNCTIONED SIMULTANEOUSLY UNDER SUB-FREEZING TEMPERATURES. THE TOTAL DECAY RATES FOR THE BG AND UL AEROSOLS WERE MEASURED AND COMPARED FOR A DISTANCE OF

THREE-QUARTERS OF A MILE FROM THE SOURCE. THE INFECTIVE CAPACITY OF THE UL AEROSOL WAS ALSO ASCERTAINED.

DOD/DROLS A158593 1985

COLD REGIONS ENVIRONMENTAL TEST OF NUCLEAR, BIOLOGICAL, AND CHEMICAL DECONTAMINATION EQUIPMENT.

ARMY TEST AND EVALUATION COMMAND ABERDEEN PROVING GROUND MD

ARMY TEST AND EVALUATION COMMAND ABERDEEN PROVING GROUND MD

FINAL REPT. 43P HC COST: $ 5.00 TOP-8-4-007 SUPERSEDES REPORT DATED 29 AUG 69.

THIS TOP PRESCRIBES METHODS FOR EVALUATING NUCLEAR, BIOLOGICAL, AND CHEMICAL (NBC) DECONTAMINATION EQUIPMENT IN THE NATURAL COLD REGIONS ENVIRONMENT. IT CONTAINS PROCEDURES FOR EVALUATING STORAGE, TRANSPORTATION, ENVIRONMENTAL PERFORMANCE, LOGISTIC SUPPORTABILITY, RELIABILITY, HUMAN FACTORS, AND SAFETY. IT DESCRIBES THE NECESSARY FACILITIES AND INSTRUMENTATION REQUIREMENTS FOR TEST ACCOMPLISHMENT.

DOD/DROLS A158729 1985

COLD REGIONS LOGISTIC SUPPORTABILITY TESTING OF CHEMICAL, BIOLOGICAL, AND RADIOLOGICAL DEFENSE EQUIPMENT.

ARMY TEST AND EVALUATION COMMAND ABERDEEN PROVING GROUND MD

ARMY TEST AND EVALUATION COMMAND ABERDEEN PROVING GROUND MD

FINAL REPT. ON TEST OPERATIONS PROCEDURE. 29P HC COST: $ 5.00 TOP-8-4-015

THIS DOCUMENT DESCRIBES TEST METHODS AND TECHNIQUES NECESSARY TO PERFORM A LOGISTIC SUPPORTABILITY TEST OF CHEMICAL, BIOLOGICAL, AND RADIOLOGICAL DEFENSE EQUIPMENT IN A COLD REGIONS ENVIRONMENT. ORIGINATOR SUPPLIED KEYWORDS INCLUDE: LOGISTICS SUPPORT OF ARMY EQUIPMENT; COLD WEATHER FIELD TESTS; RADIOLOGICAL DEFENSE EQUIPMENT; CHEMICAL, BIOLOGICAL. (AUTHOR)

DOD/DROLS A166321 1985

COLD WEATHER ASPECTS OF NBC (NUCLEAR, BIOLOGICAL AND CHEMICAL) OPERATIONS - A SURVEY OF SELECTED WARSAW PACT OPEN SOURCE LITERATURE.

ORI INC ALEXANDRIA VA

TESKO S ;

FINAL REPT., 24P HC COST: $ 5.00 ORI-TR-2455

THIS PAPER PRESENTS A VERY BRIEF SURVEY OF WARSAW PACT VIEWS ON THE IMPACT OF COLD WEATHER ON NBC OPERATIONS DRAWN FROM UNCLASSIFIED OPEN SOURCE REPORTING. EVEN THOUGH THE UNIVERSE OF DOCUMENTS WAS LIMITED, A NUMBER OF IMPORTANT OBSERVATIONS ARE WORTH NOTING: (1) LOW TEMPERATURES ALLOW THE USE OF OTHERWISE HIGHLY VOLATILE AGENTS REQUIRING LOWER AMMUNITION EXPENDITURES TO INFLICT A PARTICULAR LEVEL OF DAMAGE. (2) PROVISION OF UNFROZEN WATER AND DECONTAMINANTS IS AN EXTRA BURDEN. (3) THE INCREASED VIABILITY OF ORGANISMS IN COLD AND LOW LIGHT CONDITIONS COULD MAKE THEM MORE ATTRACTIVE IN WINTER OR ARCTIC SITUATIONS, THAN IN MORE TEMPERATE REGIONS. (4) EXTREME COLD ENCOURAGES CONGREGATION OF PERSONNEL IN SHELTERS THEREBY PROMOTING DISEASE SPREAD. THIS IS A HAZARD UNAFFECTED BY COLLECTIVE PROTECTION SYSTEMS OR DECONTAMINATION. (5) THERMAL INJURIES FROM NUCLEAR WEAPONS WILL GENERALLY DECREASE IN COLD WEATHER DUE TO PERSONNEL WEARING INCREASED CLOTHING. (6) NBC RECONNAISSANCE IS GREATLY COMPLICATED IN WINTER (SNOW) OR ARCTIC ENVIRONMENT, DUE TO COVERED OR FROZEN CONTAMINATION AS WELL AS SNOW AND WIND STORMS WHICH CAN CREATE CONTAMINATION ZONES OF UNUSUAL SHAPE. KEYWORDS: NUCLEAR BIOLOGICAL CHEMICAL OPERATIONS.

DOD/DROLS A173203 1986

PHYSIOLOGICAL ASSESSMENTS OF CHEMICAL THREAT PROTECTIVE PATIENT WRAPS IN THREE ENVIRONMENTS.

ARMY RESEARCH INST OF ENVIRONMENTAL MEDICINE NATICK MA

CADARETTE BRUCE S ;SPECKMAN KAREN L ;STEPHENSON LOU A ;

MANUSCRIPT REPT., 23P HC COST: $ 5.00 USARIEM-M-56-86
PRESENTED AT THE ANNUAL AEROSPACE MEDICAL ASSOCIATION MEETINGS (57TH), NASHVILLE, TN, 20-24 APR 86.

COMPARISONS OF PHYSIOLOGICAL RESPONSES OF EIGHT RESTING SUPINE SUBJECTS TO 2-H ENCAPSULATION IN THE CURRENT CHEMICAL WARFARE AGENT PROTECTIVE PATIENT WRAP, AND SEVEN PROTOTYPES WERE CONDUCTED IN A WARM (T SUB DB = 30C, T SUB DP = 7C) ENVIRONMENT. OXYGEN AND CARBON DIOXIDE CONCENTRATIONS WITHIN THE WRAP, AND THE SUBJECTS' RECTAL TEMPERATURE (T SUB RE), HEART RATE (HR) AND SWEATING RATES WERE DETERMINED. THE SUBJECTS' SWEATING RATES AND FINAL T SUB RE AND HR WERE NOT DIFFERENT AMONG WRAPS. TWO PROTOTYPE WRAPS WERE FURTHER TESTED IN THE HEAT (T SUB DB = 49C, T SUB DP = 17C) AND COLD (T SUB DB = -39C). THE CHOSEN WRAPS WERE THE WRAP OF NYCO TWILL SHELL AND 3M MELT-BLOWN POLYPROPYLENE CORE WHICH SHOWED THE SMALLEST CHANGES IN O2 AND CO2 (FINAL O2 = 19.3%, CO2 = 1.2%) OF THE PROTOTYPES,

AND THE NYCO OXFORD SHELL AND BONDINA MARK IV CORE WRAP WHICH HAD THE THIRD SMALLEST CHANGES IN O2 AND CO2 LEVELS (FINAL O2 = 18.8%, CO2 = 1.6%) IN THE WARM ENVIRONMENT. BOTH WRAPS RESULTED IN THE SMALLEST T SUB RE INCREASE (0.2C) IN THE WARM ENVIRONMENT. IN THE HEAT, FINAL O2 CONCENTRATION WAS GREATER (0.5%; P = 0.05) FOR THE NYCO TWILL 3M WRAP ALTHOUGH FINAL T RE, HR AND WEIGHT LOSS WERE NOT DIFFERENT BETWEEN WRAPS. IN THE COLD, THERE WERE NO DIFFERENCES BETWEEN THE WRAPS IN THESE PHYSIOLOGICAL RESPONSES. THESE RESULTS SHOW THAT THE NYCO TWILL 3M PATIENT WRAP IS EQUAL OR BETTER THAN THE SIX PROTOTYPE WRAPS IN THE WARM AND HOT ENVIRONMENTS, AND PERFORMS AS WELL AS THE BONDINA MARK IV IN THE COLD.

DOD/DROLS A178349 1986

LOW TEMPERATURE EFFECTS ON SORPTION, HYDROLYSIS AND PHOTOLYSIS OF ORGANOPHOSPHONATES: A LITERATURE REVIEW.

NEW HAMPSHIRE UNIV DURHAM DEPT OF CHEMISTRY

BRITTON K B ;

SPECIAL REPT., 82P HC COST: $ 5.00

A SURVEY WAS MADE OF THE OPEN LITERATURE TO DETERMINE THE INFORMATION AVAILABLE ON THE PERSISTENCE OF ORGANOPHOSPHONATE CHEMICAL AGENTS IN THE ENVIRONMENT. THIS REVIEW FOCUSES ON LOW TEMPERATURE HYDROLYTIC AND PHOTOLYTIC DEGRADATION OF THE NERVE AGENTS GA (TABUN), GB (SARIN), GD (SOMAN) AND VX. THE ROLE OF ADSORPTION TO ICE, SNOW AND FROZEN SOILS AND SEDIMENTS IS ALSO DISCUSSED IN RELATION TO THESE DEGRADATIVE PROCESSES. SUGGESTIONS ARE MADE FOR THE INVESTIGATION OF AGENT DECOMPOSITION USING SIMULANTS. THE METHOD PROPOSED FOR THE STUDY OF AGENT PERSISTENCE IS BASED ON THE USE OF LINEAR FREE ENERGY RELATIONSHIPS, WHICH SHOULD ALLOW FOR MORE RELIABLE PREDICTION OF AGENT BEHAVIOR THAN IF A SINGLE SIMULANT IS USED AS A MODEL COMPOUND. KEYWORDS: TABUN, SARIN, SOMAN, ORGANOPHOSPHONATE PESTICIDES, CHEMICAL WARFARE AGENTS

DOD/DROLS B009895 1974

PHYSIOLOGICAL TRIAL OF COLD WEATHER CLOTHING AND EQUIPMENT. EXERCISE HONKY TONK I. NORWAY 1974,

ARMY PERSONNEL RESEARCH ESTABLISHMENT FARNBOROUGH (ENGLAND)

WORSLEY D ;AMOR A ;HUGHES W P ;INCE N ; RAMSAY D ;

181P HC COST: $ 10.67 APRE-16/74

EXERCISE HONKY TONK I WAS A COLD CLIMATE PHYSIOLOGICAL

TRIAL PERFORMED BY THE ARMY PERSONNEL RESEARCH ESTABLISHMENT WITH THE ASSISTANCE OF MEN OF 48 AMF(L) COY RAOC IN SOUTHERN NORWAY IN JANUARY-FEBRUARY 1974. THE MAIN AIMS WERE TO ASSESS THE THERMAL PROTECTION PROVIDED BY A NUMBER OF DEVELOPMENT ITEMS OF CLOTHING AND PERSONAL EQUIPMENT, TO INVESTIGATE SOME NBC ASPECTS OF COLD WEATHER OPERATIONS, TO MEASURE THE ENERGY COST OF SOME MILITARY TASKS, TO OBTAIN METEOROLOGICAL DATA AND ASSESS SIMPLE UNIT METEOROLOGICAL EQUIPMENT, TO STUDY TENT CONDITIONS AND TO GAIN EXPERIENCE IN THE CONDUCT OF FIELD TRIALS IN COLD CLIMATES. THE CLIMATIC CONDITIONS WERE RELATIVELY MILD AND ERRATIC, AND WERE SELDOM SUFFICIENTLY STRESSFUL FOR THE FULL REALISATION OF THE AIMS, ALTHOUGH USEFUL DATA WAS COLLECTED AND EXPERIENCE GAINED. IN VIEW OF THE IMPORTANCE ATTACHED TO THE THERMAL PROTECTION STUDIES A POST- FIELD TRIAL COLD CHAMBER PHASE WAS PERFORMED IN JUNE-JULY 1974 AND ACTIVE PREPARATIONS INITIATED FOR A FURTHER EXERCISE IN FORT CHURCHILL MANITOBA CANADA. (AUTHOR)

DOD/DROLS B038724L 1979

DEVELOPMENT TEST II OF XM9 CHEMICAL AGENT DETECTOR PAPER.

ARMY COLD REGIONS TEST CENTER FORT GREELY AK

NELSON JOHN D ;

FINAL REPT. OCT 78-FEB 79, 52P HC COST: $ 5.00

CRTC CONDUCTED A DTII OF THE XM9 CHEMICAL AGENT DETECTION PAPER FROM OCTOBER 1978 THROUGH FEBRUARY 1979 AT FT. GREELY, AK. TESTING WAS CONDUCTED AT TEMPERATURES BETWEEN 35 F TO - 26 F. SUBTESTS INCLUDED ADHESIVENESS, USABLE LIFE, HUMAN FACTORS, SAFETY, AND TECHNICAL PUBLICATION ADEQUACY. THE XM9 PAPER DID NOT ADHERE TO ALL SURFACES FOR THE REQUIRED PERIOD, BUT IT COULD BE USED SATISFACTORILY BY CAREFULLY CHOOSING WHERE AND HOW IT WAS APPLIED OR BY USING ADDITIONAL MEANS TO SECURE IT TO THE CARRIER MATERIAL. THE XM9 COULD NOT BE USED UNDER BLACKOUT CONDITIONS WHILE USING A LIGHT WITH A RED FILTER. (AUTHOR)

DOD/DROLS B042605L 1979

DEVELOPMENT TEST II (PROTOTYPE QUALIFICATION TEST - GOVERNMENT) OF XM9 CHEMICAL AGENT DETECTOR PAPER EXPOSED AT ENVIRONMENTAL SITES.

ARMY DUGWAY PROVING GROUND UT

GRAYSON B L ;RICE W H ;

FINAL REPT. JAN-FEB 79, 30P HC COST: $ 5.00
DPG-FR-79-202

DT II TESTING OF THE XM9 CHEMICAL AGENT DETECTOR PAPER EXPOSED TO WEATHERING, WORN ON CLOTHING, AND SUBJECTED TO SOIL ADHESION WAS CONDUCTED DURING JANUARY AND FEBRUARY 1979 AT DUGWAY PROVING GROUND. TESTS WERE CONDUCTED TO EVALUATE THE STATUS OF THE DEVELOPMENT AND PROTOTYPE QUALIFICATIONS OF THE XM9. THE EFFECTS OF EXPOSURE OF THE PAPER AT THREE ENVIRONMENTAL SITES, US ARMY YUMA PROVING GROUND, US ARMY COLD REGIONS TEST CENTER, AND US ARMY TROPIC TEST CENTER WERE EVALUATED. SAMPLES OF THE PREVIOUSLY EXPOSED PAPER WERE CHALLENGED WITH AGENT GD AT CLIMATIC CONDITIONS SIMILAR TO THOSE OF THE ENVIRONMENTAL SITES. (AUTHOR)

DOD/DROLS B066840L 1982

ADVANCED DEVELOPMENT OF A DETECTOR KIT FOR CHEMICAL AGENTS IN WATER.

MINE SAFETY APPLIANCES CO MURRYSVILLE PA

VANCHERI FRANK J ;

FINAL COMPREHENSIVE REPT. SEP 81-MAY 82 ON PHASE 3, 139P HC COST: $ 7.73 A-100-A004 ORIGINAL CONTAINS COLOR PLATES: ALL DTIC REPRODUCTIONS WILL BE IN BLACK AND WHITE. SEE ALSO AD-B062 508L.

THE MAJOR EMPHASIS IN PHASE III WAS THE CORRECTION OF ALL KIT DEFICIENCIES AND THE TESTING REQUIRED TO VERIFY THESE CHANGES. COLD TEMPERATURE OPERATIONS REQUIRED A NUMBER OF COMPONENT AND DESIGN CHANGES INCLUDING NEW ZINC MIX FILL, ADDITIONAL MATCHES, HEAT SHIELD FOR REACTOR BOTTLE AND CLIP FOR HOLDING TICKET. CHANGES TO MANUAL AND INSTRUCTION CARD WERE MADE TO REFLECT NEW COLD TEMPERATURE OPERATING PROCEDURES. RELIABILITY FOR ALL NEW APPARATUS AND PROCEDURES WAS DEMONSTRATED.

DOD/DROLS B089094 1984

SMOKE WEEK VI/SNOW TWO. VOLUME 1A. OBSCURANT CHARACTERIZATION MEASUREMENTS SUMMARY.

TENNESSEE UNIV SPACE INST TULLAHOMA

KLIMEK W G ;DIETZ K L ;ADAMS D ;FARMER W M ;STALLINGS E S ;

FINAL REPT. 9 JAN-18 JAN 84, 611P HC COST: $ 40.77 SEE ALSO VOLUME 1B, AD-B089 095.

SMOKE WEEK VI WAS A WINTER TIME REPLICATION OF PREVIOUS LARGE SCALE SMOKE WEEKS. THE PREVIOUS LARGE SCALE TESTS WERE SMOKE WEEKS I-IV. SMOKE WEEKS VA AND VB WERE SMALL,

SPECIALIZED, FIELD TESTS. SMOKE WEEK VI WAS THE FIRST MAJOR TEST OF BATTLEFIELD SMOKES AND OBSCURANTS IN A WINTER ENVIRONMENT. THERE WAS A BASE OF SNOW 0. 5M DEEP ACROSS THE ENTIRE TEST SITE WITH FRESH SNOW FALLING NEARLY EVERY TEST DAY. THE TEMPERATURE RANGED FROM -15 TO -6 C (+5 TO +21 F) DURING THE TRIALS. IN THESE FIELD TRIALS, STANDARD AND EXPERIMENTAL IR SCREENERS WERE TESTED UNDER CLEAR AND SNOWING CONDITIONS. IN GENERAL THE TRIALS WERE CONDUCTED AS PLANNED. IN ALL, 51 TRIALS WERE SUCCESSFULLY COMPLETED. THE WINTER CONDITIONS DID NOT PROVE TO BE A MAJOR HARDSHIP ON EITHER EQUIPMENT OR PERSONNEL. IT WAS CONCLUDED THAT WINTER CONDITIONS DID NOT HINDER CLOUD PRODUCTION FROM ANY SOURCE TYPE EXCEPT THE RED PHOSPHORUS PELLETS.

DOD/DROLS B089095 1984

SMOKE WEEK VI/SNOW TWO. VOLUME 1B. OBSCURANT CHARACTERIZATION MEASUREMENTS SUMMARY.

TENNESSEE UNIV SPACE INST TULLAHOMA

KLIMEK W G ;DIETZ K L ;ADAMS D ;FARMER W M ;STALLINGS E S ;

FINAL REPT., 315P HC COST: $ 20.05 SEE ALSO VOLUME 2, AD-C036 017.

THE SMOKE WEEK VI FIELD EXPERIMENT WAS HOSTED BY THE OFFICE FOR THE PROJECT MANAGER SMOKE/OBSCURANTS IN CONJUNCTION WITH THE SNOW-TWO FIELD EXPERIMENT SPONSORED BY U.S. ARMY COLD REGIONS RESEARCH AND ENGINEERING LABORATORY. FIFTY-ONE TRIALS WERE SUCCESSFULLY COMPLETED TO TEST EQUIPMENT, EXPERIMENTAL AND STANDARD OBSCURANT SMOKES, AND DETONATION PROCEDURES UNDER WINTER CONDITIONS. DETAILED MEASUREMENTS OF CLOUD SMOKE AND OBSCURANT PHYSICAL PARAMETERS WERE MADE ON BOTH A MACROSCALE AND A MICROSCALE BASIS. VOLUME IB IS A CONTINUATION OF THE DATA SECTION, SECTION 3, INITIATED IN SMOKE WEEK VI OBSCURANT CHARACTERIZATION MEASUREMENT SUMMARY, VOLUME IA. DATA FOR THE PHOSPHORUS TRIALS, TRIALS 110 THROUGH 418, ARE PRESENTED. THE TRIALS ARE GROUPED IN ORDER TO OBSCURANT SOURCE TYPE, PLASTISIZED WHITE PHOSPHOROUS, WHITE PHOSPHOROUS, AND RED PHOSPHOROUS. THIS VOLUME CONCLUDES THE DATA SECTION OF THE UNCLASSIFIED PORTION OF THE SMOKE WEEK VI FINAL REPORT.

DOD/DROLS B090991L 1984

SNOW-TWO DATA REPORT. VOLUME 2. SYSTEM PERFORMANCE.

COLD REGIONS RESEARCH AND ENGINEERING LAB HANOVER NH

JORDON R ;

SPECIAL REPT., 422P HC COST: $ 27.54
CRREL-SR-84-20-VOL-2

THE SNOW-TWO/SMOKE WEEK VI FIELD EXPERIMENT HELD AT CAMP GRAYLING, MICHIGAN, WAS A COOPERATIVE EFFORT OF THE U.S. ARMY COLD REGIONS RESEARCH AND ENGINEERING LABORATORY AND THE OFFICE OF THE PROJECT MANAGER SMOKE/OBSCURANTS, THE MAIN OBJECTIVE OF WHICH WAS TO STUDY THE EFFECTS OF MANMADE AND NATURAL OBSCURANTS ON THE PERFORMANCE OF ELECTRO-OPTICAL AND MILLIMETER WAVELENGTH DEVICES. THIS REPORT PRESENTS THE RESULTS OBTAINED BY CRREL AND SOME 20 OTHER AGENCIES DURING THE SNOW-TWO PHASE OF THE EXPERIMENT, COVERING THE PERIODS 28 NOVEMBER TO 21 DECEMBER 1983 AND 4 JANUARY TO 9 MARCH 1984. IT IS FOURTH IN A SERIES OF DATA REPORTS ON THE SNOW FIELD EXPERIMENTS SPONSORED BY THE U.S. ARMY CORPS OF ENGINEERS WINTER BATTLEFIELD OBSCURATION RESEARCH PROGRAM. THE REPORT IS IN TWO MAIN VOLUMES WITH A SUPPLEMENTAL CLASSIFIED VOLUME. THE FIRST VOLUME COVERS THE GENERAL TOPICS OF METEOROLOGY AND SNOW CHARACTERIZATION; THE SECOND COVERS THE TOPICS OF ELECTROMAGNETIC WAVE TRANSMISSION THROUGH FALLING AND BLOWING SNOW, TARGET/ BACKGROUND SIGNATURES, AND SYSTEM PERFORMANCE IN SNOW. KEYWORDS: ELECTROMAGNETIC WAVE PROPAGATION, HYDROMETEORS, MANMADE OBSCURANTS, METEOROLOGICAL PHENOMENA, OBSCURATION, ATMOSPHERIC, PRECIPITATION, PROPAGATION, SYSTEM PERFORMANCE, TARGET ACQUISITION, TARGET/ BACKGROUND SIGNATURES, TARGET DETECTION, VISIBILITY, AND WINTER.

DOD/DROLS B095941 1985

COLD-WEATHER COMBAT: ANALOGIES TO CHEMICAL COMBAT.

INSTITUTE FOR DEFENSE ANALYSES ALEXANDRIA VA

HAMMERMAN G ;APKER D ;MARTELL P ;PETTERSON L ;

FINAL REPT., 57P HC COST: $ 5.00 IDA-P-1863 PREPARED IN COOPERATION WITH HISTORICAL EVALUATION AND RESEARCH ORGANIZATION, FAIRFAX, VA.

COLD WEATHER COMBAT IS USED AS AN ANALOGY TO EXPLORE POSSIBLE CHARACTERISTICS OF COMBAT IN A CHEMICAL WARFARE ENVIRONMENT. CHARACTERISTICS OF COLD WEATHER COMBAT ARE DEFINED USING HISTORICAL EXAMPLES, AND THESE ARE APPLIED JUDGMENTALLY TO CHEMICAL COMBAT.

DOD/DROLS B099962L 1985

PROBLEMS OF CHEMICAL DEFENSE OPERATIONS IN EXTREME COLD.

ARMY DUGWAY PROVING GROUND UT

STEARMAN ROEBERT L ;

TECHNICAL REPT., 65P HC COST: $ 5.00 DPG-S-TA-85-08

PROBLEMS ENCOUNTERED IN CHEMICAL DEFENSE OPERATIONS IN EXTREME COLD WERE STUDIED. THE AMERICAN SOLDIER HAS NOT FARED WELL IN WINTER WARFARE FROM VALLEY FORGE TO KOREA. A SIGNIFICANT PORTION OF NORTH AMERICA AND EURASIA IS ARCTIC, SUBARCTIC, OR HIGH ALTITUDE. HIGH LATITUDE AND HIGH ALTITUDE CAN PROVOKE MEDICAL PROBLEMS AND PSYCHOLOGICAL ABERRATIONS. IN REGIONS OF EXTREME COLD, THE SOLDIER' S FIRST EFFORT GOES INTO SURVIVING THE ENVIRONMENT. CHEMICAL DEFENSE OPERATIONS WILL ADD TO THE HEAVY BURDEN. THE ARMY OF THE CHINESE PEOPLES REPUBLIC PROVED ITS ABILITY TO FIGHT IN WINTER IN KOREA. SOVIET DOCTRINE AND TRAINING EMPHASIZE OPERATIONS IN COLD WEATHER BECAUSE THEY BELIEVE THEY CAN WIN IN WINTER. THE POTENTIAL FOR CHEMICAL ATTACK IN EXTREME COLD IS EXPLORED. PROBLEMS ENCOUNTERED BY ALASKAN PERSONNEL IN USING CHEMICAL EQUIPMENT ARE DISCUSSED. CONCLUSIONS AND RECOMMENDATIONS ARE PROVIDED. KEYWORDS: AEROSOLS, CHEMICAL CONTAMINATION, CHEMICAL WARFARE AGENTS, CLOTHING, COLD WEATHER COMBAT BOOT, DEFENSE OPERATIONS, DONNING AND DOFFING EQUIPMENT DECONTAMINATION, MOUNTAINS, OVERGARMENT, PERSONNEL DECONTAMINATION, POTENTIAL THREAT, PROTECTIVE EQUIPMENT, PROTECTIVE HOOD, PROTECTIVE MASK, SEVERE COLD CASUALTIES, SHELTER, TEST AND EVALUATION.

DOD/DROLS B106382L 1986

ICE FOG AND CLATHRATE HYDRATE FORMATION AND THEIR CORRELATION WITH AGENT USE IN ARTIC REGIONS: A LITERATURE SURVEY.

CHEMICAL RESEARCH DEVELOPMENT AND ENGINEERING CENTER ABERDEEN PROVING GROUND MD

YUROW HARVEY W ;

SPECIAL PUBLICATION REPT. MAY-OCT 85, 21P HC COST: $ 5.00 CRDEC-SP-86021

ICE FOG AND CLATHRATE HYDRATE FORMATION, OFTEN FOUND IN ARCTIC REGIONS, MAY STRONGLY INFLUENCE USE OF AGENTS IN THESE AREAS. THE ICE FOG FORMATION, WHICH INVOLVES RAPID COOLING OF WATER VAPOR TO FORM EXTREMELY SMALL ICE PARTICLES THAT REMAIN SUSPENDED FOR EXTENDED PERIODS, MAY SERVE AS A COVER FOR AGENT DISSEMINATION. THE HYDRATE FORMATION TRAPS GASES OR LOW BOILING LIQUIDS IN CRYSTALS THAT RESEMBLE SNOW OR LOOSE ICE. AS TEMPERATURES RISE, THE COMPOUND RAPIDLY BREAKS DOWN.

DOD/DROLS B111608L 1987

COLD WEATHER DECONTAMINATION OPERATIONS.

BATTELLE COLUMBUS DIV OH

REIDY JOHN J ;BAUM JOSEPH V ;HILL TERRANCE E ; RUDOLPH ROBERT C ;STANFORD THOMAS B ;

CONTRACTOR REPT. JUL 86-JAN 87, 72P HC COST: $ 5.00

LITERATURE REVIEWS, STUDIES AND TESTS WERE CONDUCTED TO DETERMINE THE ABILITY OF WATER BASED SYSTEMS TO PERFORM DECONTAMINATION IN COLD WEATHER. THIS INCLUDES BOTH THE EQUIPMENT AND THE PROTECTIVE CLOTHING THAT THE OPERATORS WEAR. IT ALSO INCLUDES CONSIDERATIONS OF THE EFFECTS OF ANTIFREEZE WATER SOLUTIONS FROM BOTH A LOGISTICS AS WELL AS A MATERIALS COMPATIBILITY STANDPOINT. KEYWORDS: AQUEOUS.

DOD/DROLS B114331L 1987

FIRST ARTICLE - INITIAL PRODUCTION TEST (FA- IPT) OF DECONTAMINATION KIT, INDIVIDUAL EQUIPMENT, M280.

ARMY COLD REGIONS TEST CENTER FORT GREELY AK

CARSON JEFFERY L ;

FINAL LETTER REPT. 3 MAR-29 APR 87, 69P HC COST: $ 5.00

THE COLD REGIONS TEST CENTER (CRTC), FORT GREELY, ALASKA, CONDUCTED A LIMITED FA-IPT OF THE M280 DECONTAMINATION KIT, INDIVIDUAL EQUIPMENT (DKIE) AND ITS ASSOCIATED TRAINING AID, INDIVIDUAL EQUIPMENT DECONTAMINATION TRAINING AID (IEDTA) FROM 3 MARCH 1987 TO 29 APRIL 1987 AT FORT GREELY, ALASKA. TEST PARTICIPANTS WERE 10 TEST SUPPORT SOLDIERS FROM VARIOUS FORCES COMMAND (FORSCOM) UNITS WITH MILITARY SKILL OCCUPATION (MOS) BEING IMMATERIAL. EACH SQUAD CONTAINER CONTAINED 20 INDIVIDUAL DECONTAMINATION CONTAINERS. A TOTAL OF 47 DKIE INDIVIDUAL CONTAINERS WERE USED, WITH 24 BEING CARRIED FOR A TOTAL OF 1.082 HOURS.

DOD/DROLS B114543 1978

HYDROLYTIC STABILITY OF SOMAN.

NORWEGIAN DEFENCE RESEARCH ESTABLISHMENT KJELLER

BLANCH J H ;ONGSTAD L ;

INTERN RAPPORT, 10P HC COST: $ 5.00 FFI-TOX-89

THE RATE OF HYDROLYSIS OF SOMAN HAS BEEN STUDIED IN CONCENTRATED AQUEOUS SOLUTION. THESE VALUES, AND VALUES FOR THE FREEZING-POINT DEPRESSION CURVE OF SOMAN IN WATER WERE USED IN COMBINATION WITH A THEORETICAL MODEL TO PREDICT THE STABILITY OF SOMAN ON SNOW AND ICE BELOW 0 C. THE PREDICTED VALUES HAVE BEEN VERIFIED BY OTHER EXPERIMENTAL DATA.

DOD/DROIS B114740 1987

ARCTIC THREAT ASSESSMENT.

SCIENCE APPLICATIONS INTERNATIONAL CORP MCLEAN VA

STANSBURY MARY M; METZ DENNIS F; MCNALLY RICHARD E; BRUNO JOHN E

CONTRACTOR REPT. JUL 86-APR 87, 111P HC COST: $ 5.77

IN THE PAST, CB THREAT ASSESSMENTS HAVE BEEN DIRECTED PRIMARILY AT AN EUROPEAN ENVIRONMENT. RECENT EFFORTS HAVE EXPANDED ASSESSMENTS TO A MIDDLE EAST ENVIRONMENT. THERE IS A CURRENT NEED TO EXPAND EFFORTS TO INCLUDE ARCTIC ENVIRONMENTS. ALTHOUGH DATA REQUIRED TO PERFORM SUCH ASSESSMENTS IS SCARCE, THERE IS ENOUGH DATA AVAILABLE TO CONDUCT A PRELIMINARY ASSESSMENT OF THREAT IN AN ARCTIC ENVIRONMENT. THE OVERALL OBJECTIVE OF THE ARCTIC THREAT ASSESSMENT TASK WAS TO SIMULATE THE CHEMICAL HAZARD IN AN ARCTIC ENVIRONMENT. INPUT PARAMETERS WERE DETERMINED FOR THE NUSSE3 AND VEHW MODELS TO EVALUATE PERFORMANCE OF A CHEMICAL AGENT IN AN ARCTIC ENVIRONMENT, AND THREAT SITUATIONS WERE DEVELOPED TO INCLUDE AGENT/MUNITION COMBINATIONS AND DISSEMINATION CHARACTERISTICS. FINALLY, A COMPARISON OF SAMPLE RESULTS PRODUCED BY NUSSE3 AND VEHW WITH RESULTS PRODUCED BY THE NORWEGIAN MODEL (PREDICT) WAS MADE. (AUTHOR)

DOD/DROLS B115298 1987

PERSISTENCE OF CHEMICAL AGENTS ON THE WINTER BATTLEFIELD. PART 1. LITERATURE REVIEW AND THEORETICAL EVALUATION,

COLD REGIONS RESEARCH AND ENGINEERING LAB HANOVER NH

LEGGETT DANIEL C

27P HC COST: $ 5.00 CRREL-87-12-PT-1

LITERATURE CONCERNING PERSISTENCE OF CHEMICAL WARFARE AGENTS AND RELATED CHEMICALS IN COLD ENVIRONMENTS IS ANALYZED. AN EXISTING MODEL OF DROPLET PERSISTENCE IS DISCUSSED IN RELATION TO EVAPORATION THEORY AND PRACTICAL UNCERTAINTIES. THIS MODEL WAS QUESTIONED IN THE CASE OF ICE AND SNOW-COVERED TERRAIN -- A NEW MODEL MAY BE NEEDED, BUT THE NECESSARY EXPERIMENTAL DATA FOR TESTING AND VALIDATION ARE NOT YET AVAILABLE. EXPERIMENTAL EVAPORATION DATA FOR CHEMICALS ON SNOW ARE NEEDED AS WELL AS THE SOLUBILITIES OF ICE IN THE RELEVANT CHEMICALS. SINCE EVAPORATION FROM ICE IS INFERRED TO BE SIGNIFICANTLY RETARDED, IT WAS EMPHASIZED THAT THE RATES OF CHEMICAL DEGRADATION NEED TO BE ADDRESSED UNDER THESE CONDITIONS. HYDROLYSIS IS A MECHANISM OF AGENT DEGRADATION ALREADY EXPERIMENTALLY DEMONSTRATED IN ICE.

MORE EXPERIMENTS ARE NEEDED UNDER CONDITIONS REALISTICALLY SIMULATING AGENT DISSEMINATION OVER SNOW AND ICE COVERS. PHOTOLYSIS IS A THIRD POTENTIAL MECHANISM OF AGENT DISSIPATION. THEORETICAL AND INDIRECT EXPERIMENTAL EVIDENCE SUGGEST THAT IT IS A WIDER PATHWAY. BECAUSE THERMAL ACTIVATION IS THEORETICALLY NOT REQUIRED, IT MAY PROCEED EQUALLY RAPIDLY AT LOW OR HIGH TEMPERATURES. SUGGESTIONS FOR RELEVANT EXPERIMENTS-- DROPLET EVAPORATION AND SOLUBILITY TESTS, AND TESTS OF HYDROLYSIS AND PHOTOLYSIS OF DROPLETS ON ICE AND SNOW SURFACES -- WERE MADE. KEYWORDS: CHEMICAL AGENTS, CHEMICAL WARFARE, COLD REGIONS, EVAPORATION, HYDROLYSIS, PHOTOLYSIS.

DOD/DROLS B115486 1987

SNOW SYMPOSIUM VI HELD IN HANOVER, NEW HAMPSHIRE ON AUGUST 1986. VOLUME 1.

COLD REGIONS RESEARCH AND ENGINEERING LAB HANOVER NH

COLD REGIONS RESEARCH AND ENGINEERING LAB HANOVER NH

SPECIAL REPT. 213P HC COST: $ 12.91
CRREL-SR-87-12-VOL-1

PARTIAL CONTENTS: PROPERTIES OF FALLING SNOW AND SNOW PACK--SNOW-III WEST DATA BASE PREVIEW SCAVENGING OF INFRARED SCREENER EA 5763 BY FALLING SNOW, ARCTIC/WINTER CAMOUFLAGE PATTERN, HUMIDITY AND TEMPERATURE MEASUREMENTS OBTAINED FROM AN UNMANNED AERIAL VEHICLE, AND ACOUSTIC-TO-SEISMIC COUPLING THROUGH A SNOW LAYER; VISIBLE AND INFRARED RADIATION INTERACTION WITH SNOW AND SNOW COVER--SNOW-SMOKE SYNERGISM DATA REVIEW, SMART TRANSMISSION SUPPORT AT SNOW IV, FORWARD SCATTER METER FOR MEASURING EXTINCTION IN ADVERSE WEATHER, EFFECT OF TRANSMISSOMETER BEAM GEOMETRY ON SNOW TRANSMITTANCE MEASUREMENTS, PRELIMINARY REPORT IN EXTINCTION AND SCATTERING DUE TO FALLING SNOW; SLANT PATH EXTINCTION AND VISIBILITY MEASUREMENTS FROM AN UNMANNED AERIAL VEHICLE, AND EFFECT OF INSTRUMENT CONFIGURATION ON MEASUREMENT OF TRANSMITTANCE IN SNOW; MILLIMETER WAVELENGTH INTERACTION WITH SNOW AND SNOW PACK--WET PRECIPITATION IN SUBFREEZING AIR BELOW A CLOUD INFLUENCES RADAR BACKSCATTERING, PULSE AIRBORNE MILLIMETER WAVE MEASUREMENTS OF SNOW- COVERED GROUND, MEASUREMENTS ON THE REFLECTIVITY OF SNOW-COVERED TERRAIN AT 94 GHZ, MILLIMETRIC RADAR BACKSCATTER TRIALS.

DOD/DROLS B121807 1988

PERSISTENCE OF CHEMICAL AGENTS ON THE WINTER BATTLEFIELD,

COLD REGIONS RESEARCH AND ENGINEERING LAB HANOVER NH

LEGGETT DANIEL C

16P HC COST: $ 5.00 CRREL-88-3

VERY LITTLE INFORMATION IS AVAILABLE ON THE EVAPORATION OF LIQUID CHEMICALS FROM ICE OR SNOW. ORGANOPHOSPHORUS CHEMICAL AGENTS AND THEIR SIMULANTS HAVE APPRECIABLE MUTUAL SOLUBILITY WITH WATER. THEORETICALLY, THIS WOULD BE EXPECTED TO LEAD TO SIMPLE DILUTION, CAUSING RETARDATION OF THEIR EVAPORATION AT THE ICE/AIR INTERFACE. POLAR CHEMICALS SUCH AS THESE ARE ALSO KNOWN TO SPREAD WHEN APPLIED TO ICE ENHANCING EVAPORATION DUE TO SURFACE AREA EXPANSION OR A 'SPREAD FACTOR' RELATIVE TO NON-SPREADING DROPLETS. THESE NOTIONS WERE TESTED BY COMPARING EVAPORATION OF DIMETHYL METHYLPHOSPHONATE (DMMP) FROM ICE AND TEFLON, A NON-SPREADING SURFACE. EVAPORATION FROM ICE WAS INITIALLY MUCH SLOWER, BUT INCREASED WITH TIME, WHILE THE EVAPORATION RATE FROM TEFLON WAS NEARLY CONSTANT. THE DATA SUGGEST THAT DISSOLUTION OF ICE AT THE INTERFACE RETARDS DMMP EVAPORATION. THIS IS SUPPORTED BY THE EQUILIBRIUM SOLUBILITY OF ICE IN DMMP, WHICH WAS MEASURED CONCURRENTLY. THESE PRELIMINARY RESULTS IMPLY THAT EVAPORATION OF CHEMICAL AGENTS DISPERSED ON ICE WILL BE RETARDED TO SOME DEGREE BY THE DISSOLUTION PROCESS. FURTHER EXPERIMENTATION WILL BE NEEDED TO EXPLAIN THE OBSERVED INCREASE IN EVAPORATION RATE WITH TIME.

DOD/DROLS B122022L 1988

THE USE OF AGENTS IN ARCTIC REGIONS: BASIC CONSIDERATIONS AND PROPOSALS.

CHEMICAL RESEARCH DEVELOPMENT AND ENGINEERING CENTER ABERDEEN PROVING GROUND MD

YUROW HARVEY W

SPECIAL PUBLICATION FEB 85-JUN 86, 35P HC COST: $ 5.00 CRDEC-SP-88018

AGENTS INTRODUCED INTO ARCTIC REGIONS TEND TO REMAIN CONCENTRATED AROUND THE POINT OF INTRODUCTION. EVAPORATION RATES ARE RETARDED BY LOW TEMPERATURES, AIR INVERSIONS, SNOW COVER, AND THE POSSIBILITY OF CLATHRATE HYDRATE FORMATION. HYDROLYSIS RATES ARE SLOWER ALTHOUGH CATALYTIC EFFECTS IN SNOW MAY ENHANCE KINETICS. HAZARDS UNIQUE TO THIS AREA INCLUDE TRACKING OF CONTAMINATED SNOW INTO HEATED ENCLOSURES AND PERCUTANEOUS ABSORPTION OF AGENTS VIA ICE FOGS. KEYWORDS: CHEMICAL AGENTS, DISSEMINATION, VX AGENT, GB AGENT, HD, ARCTIC, ANALYSIS, DECONTAMINATION, CLATHRATE HYDRATE, ICE FOG, SNOW.

DOD/DROLS B122961L 1988

EXPERIMENTAL MEASUREMENTS OF THE PROPERTIES OF CHEMICAL SURETY MATERIALS UNDER CONDITIONS OF EXTREME COLD.

[illegible] INTERNATIONAL MENLO PARK CA

[illegible]OLL R T; PARISH HELEN J

CONTRACTOR REPT. JUL 86-SEP 87, 88P HC COST: $ 5.00

OUR GENERAL OBJECTIVE WAS TO INVESTIGATE THE VAPORIZATION OF PERSISTENT CHEMICAL AGENTS UNDER COLD CONDITIONS. SPECIFIC TASKS INCLUDED THE MEASUREMENT OF THE VAPOR PRESSURE OF CHEMICAL AGENTS, GB, GD, AND HD AND SIMULANTS DI-N-BUTYL SULFIDE AND DIMETHYL SULFOXIDE AT TEMPERATURES RANGING FROM -40 C TO 0 C AND THE VAPORIZATION RATES OF THESE AGENTS AND SIMULANTS FROM SURFACES OVER THE SAME TEMPERATURE RANGE AND AT AIR VELOCITIES OF 0- 10 M/SEC. VAPOR PRESSURES WERE MEASURED USING THE GAS SATURATION METHOD AND WERE FITTED TO LINEAR PLOTS OF LOG P VERSUS 1/T WHERE P IS THE VAPOR PRESSURE AND T IS THE ABSOLUTE TEMPERATURE. IN THE FIRST PHASE OF THE VAPORIZATION STUDIES, POOL EVAPORATION EXPERIMENTS WERE CONDUCTED TO CORRELATE CHEMICAL FLUX TO TEMPERATURE AND WIND SPEED. IN THE SECOND PHASE, DROPLET VAPORIZATION WAS MEASURED AND THESE LABORATORY DATA WERE USED TO ESTIMATE THE PERSISTENCE OF NEAT AGENT DROPLETS ON CONTAMINATED SURFACES AT COLD TEMPERATURES. KEYWORDS: CHEMICAL AGENTS; VAPOR PRESSURES, VAPORIZATION, COLD TEMPERATURES, MUSTARD AGENTS, GB AGENTS, GD AGENTS. (MJM)

DOD/DROLS B123137L 1988

DECONTAMINATION OF CHEMICAL AGENTS ON THE WINTER BATTLEFIELD: A LITERATURE REVIEW AND PRELIMINARY ASSESSMENT,

COLD REGIONS RESEARCH AND ENGINEERING LAB HANOVER NH

PARKER LOUISE V

65P HC COST: $ 5.00 CRREL-88-7

THIS REPORT REVIEWS THE LITERATURE EXISTING PRIOR TO 1987 ON THE EFFECTIVENESS OF CHEMICAL DECONTAMINATION IN A COLD OR WINTER ENVIRONMENT. BOTH CHEMICAL NEUTRALIZATION TECHNIQUES AND PHYSICAL METHODS FOR DECONTAMINATION ARE DISCUSSED WITH RESPECT TO THEIR USE ON A WINTER BATTLEFIELD. THE U.S. ARMY'S CURRENT STANDARD DECONTAMINANTS ARE COMPARED TO OTHER CHEMICAL NEUTRALIZING AGENTS. PHYSICAL DECONTAMINATION METHODS THAT ARE DISCUSSED INCLUDE THERMAL DECOMPOSITION METHODS, HOT AIR DECONTAMINATION, AQUEOUS AND SOLVENT CLEANING TECHNIQUES, ABRASIVE CLEANING TECHNIQUES, AND THE USE OF ABSORBENTS.

THE POTENTIAL UTILITY OF FIELD EXPEDIENT METHODS ON A WINTER BATTLEFIELD IS REVIEWED. FINAL RECOMMENDATIONS CITE SPECIFIC AREAS WHERE RESEARCH IS NEEDED SO THAT COLD WEATHER DECONTAMINATION DOCTRINE CAN BE BETTER DEFINED. CHEMICAL WARFARE AGENTS, CHEMICAL WARFARE, COLD REGIONS, DECONTAMINATION, WINTER WARFARE. (MJM)

DOD/DROLS B123801L 1988

EVALUATION OF AQUEOUS-BASED DECONTAMINATING APPROACHES AT EXTREME COLD TEMPERATURES.

MSA RESEARCH CORP PITTSBURGH PA

FRIEL JOSEPH V; GRAHAM MICHAEL G; VANCHERI FRANK J

CONTRACTOR REPT. MAR-DEC 87, 59P HC COST: $ 5.00
INCLUDES ERRATA SHEET DATED 25 MAY 88.

THERE ARE INDICATIONS IN THE LITERATURE THAT SOVIET DOCTRINE DETAILS THE USE OF CHEMICAL WARFARE AGENTS ON THE BATTLEFIELD UNDER EXTREME COLD CONDITIONS. THE OBJECTIVE OF THIS REPORT IS TO EVALUATE AQUEOUS-BASED DECONTAMINATION AS A SOLE DECONTAMINATION APPROACH AND IN CONJUNCTION WITH DS2 FOR THE DECONTAMINATION OF CHEMICAL AGENTS AT EXTREME COLD TEMPERATURES. KEYWORDS: COLD WEATHER, DECONTAMINATION, HEATED WATER, WATER/GLYCOL SOLUTION, VX AGENT, MUSTARD AGENTS. (MJM)

DOD/DROLS B954550L 1949

TEST OF ATROPINE AMPINS UNDER SUB-ARCTIC CONDITIONS.

CHEMICAL CORPS ARMY CHEMICAL CENTER MD

ESSIG CARL F ;MCSHANE WILLIAM P ;STREICHER EUGENE;FLEISCHMANN WALTER;

MEDICAL DIVISION REPT., 22P HC COST: $ 5.00 MDR-202

(Abstract not available)

DOD/DROLS B955545L 1960

CW OPERATIONS IN LOW TEMPERATURE AREAS.

ARMY COMBAT DEVELOPMENTS COMMAND FORT MCCLELLAN AL CHEMICAL-BIOLOGICAL-RADIOLOGICAL AGENCY

ARMY COMBAT DEVELOPMENTS COMMAND FORT MCCLELLAN AL CHEMICAL-BIOLOGICAL-RADIOLOGICAL AGENCY

FINAL REPT. 90P HC COST: $ 5.00 CMLCD-59-1

(Abstract not available)

DOD/DROLS B963860L 1953

THE EVAPORATION OF MUSTARD GAS IN COLD WEATHER.

SUFFIELD EXPERIMENTAL STATION RALSTON (ALBERTA)

SUFFIELD EXPERIMENTAL STATION RALSTON (ALBERTA)

12P HC COST: $ 5.00 SES-FIELD EXPERIMENT-385

(Abstract not available)

DOD/DROLS C950164L 1973

(CLASSIFIED TITLE)

DEFENCE NBC SCHOOL SALISBURY (ENGLAND)

DEFENCE NBC SCHOOL SALISBURY (ENGLAND)

55P HC COST: $ 5.00 R2/73 ORIGINAL CONTAINS COLOR PLATES: ALL DDC REPRODUCTIONS WILL BE IN BLACK AND WHITE.

(CLASSIFIED ABSTRACT)

DOD/DROLS C950165L 1974

(CLASSIFIED TITLE)

DEFENCE NBC SCHOOL SALISBURY (ENGLAND)

DEFENCE NBC SCHOOL SALISBURY (ENGLAND)

79P HC COST: $ 5.00 R2/74

(CLASSIFIED ABSTRACT)

DOD/DROLS C953524L 1982

IMPACT OF LOW TEMPERATURE ON INDIVIDUAL CHEMICAL PROTECTION.

ARMY NATICK RESEARCH AND DEVELOPMENT CENTER MA

HERZ MATTHEW L ;BRANDLER PHILIP;

FINAL REPT. 1979-1982, 123P HC COST: $ 6.61 NATICK/TR-85/038L

(Abstract not available)

DOD/DROLS C955028 1948

(CLASSIFIED TITLE)

QUARTERMASTER RESEARCH AND ENGINEERING COMMAND NATICK MASS

ELIOT JOHAN W ;GODDARD WILLIAM L ;

24P HC COST: $ 5.00 137

(CLASSIFIED ABSTRACT)

DOD/DROLS C955838 1974

(CLASSIFIED TITLE)

NORWEGIAN DEFENCE RESEARCH ESTABLISHMENT KJELLER

BLANCH J H

17P HC COST: $ 5.00 NDRE-S11

(Abstract not available)

DOD/DROLS P200226 1984

SMOKE WEEK VI/SNOW-TWO OBSERVATIONS,

CREATIVE OPTICS INC BEDFORD MA

EBERSOLE J F ;KLIMEK W ;

3P HC COST: $ 5.00 THIS ARTICLE IS FROM 'SNOW SYMPOSIUM IV: HANOVER, NEW HAMPSHIRE, 14-16 AUGUST 1984. VOLUME 1,' AD-B090 935, P405-407.

WE REPORT ON OBSERVATIONS BASED ON VIDEO AND PHOTOGRAPHIC DATA OBTAINED AT SMOKE WEEK VI/SNOW-TWO IN SNOW/COLD ENVIRONMENTAL CONDITIONS. WE DISCUSS FIELD RESULTS WHICH ARE UNIQUE TO SMOKE TESTS IN WINTER ENVIRONMENTS VERSUS THOSE CONDUCTED IN TEMPERATURE CLIMATES. INCLUDED IS CONSIDERATION OF SMOKE/OBSCURANT TYPES, THEIR METHOD OF DISSEMINATION, AND THE EFFECTS PRODUCED BY VARIOUS METEOROLOGICAL CONDITIONS.

DOD/DROLS P200228 1984

MODELING THE EFFECTS OF A COLD ENVIRONMENT ON SCREENING SMOKES,

OPTIMETRICS INC ANN ARBOR MI

MATISE B K ;

17P HC COST: $ 5.00 THIS ARTICLE IS FROM 'SNOW SYMPOSIUM IV: HANOVER, NEW HAMPSHIRE, 14-16 AUGUST 1984. VOLUME 1,' AD-B090 935, P417-433.

MODELS HAVE BEEN DEVELOPED TO REPRESENT SOME OF THE MORE SIGNIFICANT EFFECTS OF COLD TEMPERATURES AND SNOW COVER ON INVENTORY SMOKE PERFORMANCE. OF GREATEST IMPORTANCE ARE THE EFFECTS OF SNOW EXTINGUISHING RED PHOSPHORUS WEDGES AND A CHANGE IN FOG OIL EXTINCTION AT 1.06 MICRONS. THE EFFECTS OF LOW ABSOLUTE HUMIDITY ON HYGROSCOPIC SMOKE YIELD FACTOR AND EXTINCTION COEFFICIENT HAVE ALSO BEEN MODELED. THE ENVIRONMENTAL CONDITIONS ENCOUNTERED AT SMOKE WEEK VI WERE RELATIVELY SIMILAR. TEMPERATURES RANGED FROM -5C TO - 15C AND RELATIVE HUMIDITY TENDED TO BE IN THE VICINITY OF 80% FOR THE HYGROSCOPIC SMOKE TRIALS. AS A RESULT, FOR TEMPERATURES SIGNIFICANTLY COLDER THAN -15C AND RELATIVE HUMIDITY ABOVE 85%, THE MODELING MAY NOT ADEQUATELY DESCRIBE THE OBSCURANT.